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ABSTRACT

Described are aspects of the Computers As Partners Project (CAPP) of the Department of Individual and Family Studies, College of Human Resources, University of Delaware. Originally known as the Computer Active Preschool Project, the CAPP began in January, 1983 as a pilot program designed to determine the best ways to integrate computers into early childhood education programs. Since then, the program has explored innovative ways to introduce young children to the evolving computer technology that is increasingly becoming a part of their everyday lives. Major goals of the program are to insure that young children are introduced to computer technology in developmentally appropriate ways, and to gain understanding of the ways in which exposure to computers affects children's development. This report provides: (1) a brief history of the CAPP; (2) lists of objectives, research and development projects, and scholarly activities such as publications and presentations; and (3) descriptions of software development, coordination with Apple Computer Corporation as a national research and test site, and CAPP summer computer camps. Descriptions of summer camps focus on goals and program implementation evaluation. Selected responses from parents are included with evaluation questions. Proposed 1989 course and camp programs are briefly outlined. (RH)

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CAPP

COMPUTERS AS PARTNERS PROJECT

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A BRIEF HISTORY OF THE COMPUTERS AS PARTNERS PROJECT

The Computers As Partners Project (CAPP) began in January, 1983 as a pilot program designed to determine the best ways to integrate computers into early childhood programs. CAPP was known then as the Computer Active Preschool Project. Since then the program has been on the leading edge in exploring new and innovative ways to introduce young children to the evolving computer technology that is increasingly becoming a part of their everyday life. The major goal of the program is to insure that young children are introduced to computer technology in developmentally appropriate ways and to understand how exposure effects their development.

Two separate curricula have evolved as a result of the research and observations associated with CAPP. First, many of the skills needed to become a successful early computer user have been identified. These include keyboarding skills, appropriate eye-hand coordinations and tracking ability, and mastering the concept of directionality. However, the CAPP philosophy of computer literacy extends beyond just these rudimentary skills. Children need to understand not only how computers work, but how they can work for them. CAPP tries to take the mystery out of the technology by relating computer concepts to more familiar activities within the child's environment. For instance, cooking exercises are used to illustrate the concepts of input and output.

The second curriculum emerging from CAPP is one that stresses the use of the computer as a creative tool as opposed to a tutoring machine. Instead of using drill and practice programs to teach academic concepts, CAPP is exploring new ways in which computers can be creatively used by children within an existing early childhood educational curriculum. This includes word processing, graphics, music construction, and programming. In this way the computer can become a working partner with the child to accomplish a task and facilitate development.

A major portion of CAPP's activities involve sponsoring summer computer camps at Newark and Lewes, Delaware for children 4 to 8 years of age. This allows more children to be exposed to computer technology in an appropriate way. In addition, these camps provide the University of Delaware an opportunity to share what is has discovered about computers and young children with teachers, prospective teachers, parents and others throughout the state by providing inservice training. Another essential feature of the camps is that they act as setting to continue research.

Research projects involving the study of emotional reactions of young children working with computers; interaction patterns of children while using computers; peer teaching; and parents' attitudes about young children using computers are just a few of the research projects that have evolved from CAPP.

During the 1987/88 school year the position of CAPP Director was elevated to a tenure track faculty position. With the hiring of Dr. Daniel D. Shade as CAPP Director, several changes were instigated including a renewed emphasis on research, the addition of a software development project, and major changes in the project's name and scope. CAPP stands on the forefront of a new field of investigation and therefore should be open to investigation of computer impact through the life span. The first move in this direction was to change the project's name from Computer Active Preschool Program to Computer As Partners Project.

OVERALL OBJECTIVES

a. To provide young children with opportunity to experience various forms of computer hardware and software in order to:

   (1) determine if preschool children can use and understand computer based instruction.

   (2) develop positive attitudes about computers and computer based instruction.

   (3) conduct applied developmental research involving the effect of computer technology on young children's cognitive, social, and emotional development.

b. To design strategies for preparing preservice and inservice teachers in appropriate implementation of computer based instruction in the early childhood classroom.

c. To evaluate existing resources (hardware-software) resulting in the development of appropriate curriculum and computer based activities for preschool children as well as the development of developmentally appropriate software.

d. To expand opportunities for research on the impact of computer based technology on child development and family life.

e. To fight against additions to television, videogames or even programming by helping young children learn to use computers as creative tools for achieving personal goals.

f. To promote positive sex role development in young boys and girls by exposing them to adults of both genders who are competent users of computer technology. CAPP wishes to further the development of positive attitudes towards computers in little girls by exposing them to technology early before they develop the negative orientation easily observable by third grade.

RESEARCH AND DEVELOPMENT

Past Research Projects

Hyson, Marion C. "Computer as an Elicitor of Emotions in Young Children." IFS Department.

Hyson, Marion C. "Effects of Direct Experience on Children's Concepts of Computers." IFS Department.

Klinzing, Dene G. "Social Interaction Patterns of Young Children Using Computers." IFS Department.

Morris, Sandra "Input Service Explorations: Evaluating the Mouse as an Input Device for Young Children" IFS Department.

Morris, Sandra & Paris, Cynthia "Peer Teaching and Helping at Computers." IFS Department.

Nesterak, Michael & Prudhoe, Catherine "Children's Responses to the Integration of Computers into the Classroom." IFS Department.

Paris, Cynthia "Computer Skills: Developmental Progression." IFS Department.

Settles, Barbara & Nesterak, Michael "Computer Active Preschool Program Family Survey." IFS Department.

Smith, Debbie "Beginning LOGO Experiences."

Current Research Projects

Computers and Children: Software Types, Social Contexts, and Emotional Responses

Daniel D. Shade and Marion C. Hyson

In January, 1988 the University of Delaware Research Foundation awarded Drs. Shade & Hyson a $14,000 grant to study children's emotional responses to three levels of software appropriateness in two social contexts. A copy of the proposal can be obtained by writing Dr. Shade. Approximately 90 children, between the ages of four and nine, were videotaped while using excellent, average, and poor software as determined by the Haugland/Shade Developmental Scale (Haugland & Shade, 1988) in two social conditions (alone and with-a-peer). Children's emotional responses are currently being coded using the AFFEX scale (Izard & Dougherty, 1982).

Parents and the Computer Revolution: What are Their Goals for Young Children

Daniel D. Shade

Each year since the first camp was held in 1984, parents have been asked to fill out a questionnaire about their child as part of the application process. These questionnaires contain specific questions about what goals parents hope to achieve for their child by sending them to computer camp. Currently parent responses are being collected and summarized in hopes of determining the nature of parent goals in relation to computer camp and if those goals have changed over the past five years.

What are Little Girls Made of? Long Term Effects of Computer Camp Attendance on Computer Interest in Females

Daniel D. Shade

One of the earliest positive outcomes, from computer inclusion in Early Childhood Education, has been the observation that gender differences do not exist at the preschool level. Little girls like the computer as well as little boys and are just as likely to become the 'class experts.' However, by the time children reach the third grade,

girls begin to lose their interest in technology. Some speculate this is due to stereotypic sex role socialization. Work is underway to develop a questionnaire to be sent to the parents of all the children who have attended a CAPP summer camp. Among other things, we hope to discover if early exposure to computer technology has lasting effects on young children, especially little girls.

Software Preferences of Young Children who Attend a Summer Computer Camp

Daniel D. Shade

For the past 2 years, camp staff have been collecting data on which pieces of software children select and use most often. Analysis of this data should indicate children's preferences and correlate with their emotional responses from this summers data collection.

SOFTWARE DEVELOPMENT

Developmentally Appropriate Software for Young Children

Daniel D. Shade, University of Delaware
Susan W. Haugland, Southeast Missouri State University

During the Spring, 1988 semester, CAPP responded to the office of Academic Computing and Instructional Technology's (ACIT) annual request for proposals. Drs. Shade and Haugland have designed three pieces of software for young children that conform to the guidelines they developed for developmentally appropriate software (Haugland & Shade, 1988). Although ACIT was unable to fund the project, CAPP was encouraged to resubmit next year. In the meantime, CAPP is seeking outside funding for the project. Contacts have been made with Interactive Educational Systems Design and Great Wave Software.

APPLE COMPUTER NATIONAL RESEARCH AND TEST SITE

Continuing CAPP's long tradition of national leadership, Dr. Shade was contacted by Sybil Ellery at Apple Computer. She read his 1988 article on software evaluation and desired to enlist CAPP as an 'Apple National Research and Test Site.' Agreement was reached late in the summer and Apple Computer will be supporting the Computers As Partners Project research efforts with computer hardware and

software. Apple has also agreed to help CAPP procure needed funding for research and development.

SCHOLARLY ACTIVITIES

PUBLICATIONS

Davidson, J. I. (in press). Children and computers together is the classroom: A guide to using computers with young children. Delmar Publications.

Ferrari, M., Klinzing, D. G., Paris, C. L., Morris, S.K., & Eyman, A. P. (1985). Home computers: Implications for children and families. In M. B. Sussman (Ed.), Personal computers and the family. New York: Haworth Press.

Haugland, S. W., & Shade, D. D. (1988). Developmentally appropriate software for young children. Young Children, 43(4), 37-43.

Hyson, M. C. (1985). Emotions and the microcomputer: An exploratory study of young children's responses. Computers in Human Behavior, 1, 143-152.

Hyson, M. C., & Eyman, A. (1986). Approaches to computer literacy in early childhood teacher education. Young Children, 41(6), 54-59.

Hyson, M. C., & Morris, S. K. (1985). 'Computers? I love them!': Young children's concepts and attitudes about computers. Early Child Development and Care, 23, 17-29.

Shade, D. D., & Watson, J. A. (1988). Microcomputers in preschool environments: Answers to questions, theoretical guidance and future directions. Manuscript submitted for publication.

Shade, D. D. & Watson, J. A (1987). Microworlds, mother teaching behavior, and concept formation in the very young child. Early Child Development and Care, 28(2), 97-114.

Shade, D. D., Nida, R. E., Lipinski, J. M., & Watson, J. A. (1986). Microcomputers and preschoolers: Working together in a classroom setting. Computers in the Schools, 3(2), 53-61.

Shade, D. D. (1986, March/April). Discovery learning on the 64: Computer "Microworlds" help preschool children learn important cognitive skills. Commodore microcomputers, pp. 66-69, 117.

Watson, J. A., Nida, R. E., & Shade, D. D. (1986). Educational issues concerning young children and microcomputers: Lego with Logo? Early Child Development and Care, 23, 299-316.

PRESENTATIONS

Davidson, J. I. (1987, November). My children cannot find keys on the keyboard, how can they use the computer? Developing activities to strengthen skills needed to use the computer and concepts about the computer. Paper presented as part of the presession, Programming computers into a developmental early childhood classroom, at the meeting of the National Association for the Education of Young Children, Chicago, IL.

Edwards, N. (1987, November). Integrating word processing into a process-oriented writing program for kindergartners. Paper presented as part of the presession, Programming computers into a developmental early childhood classroom, at the meeting of the National Association for the Education of Young Children, Chicago, IL.

Eyman, A. P., & Springsteen, J. A. (1987, November). The kids like the computers but the teachers are scared to use them. Paper presented as part of the presession, Programming computers into a developmental early childhood classroom, at the meeting of the National Association for the Education of Young Children, Chicago, IL.

Haugland, S. W., & Shade, D. D. (1987, June). Effect of developmental software on young children. Paper presented at the annual meeting of the National Educational Computing Conference, Philadelphia, PA.

Haugland, S. W., & Shade, D. D. (1987, July). Integrating computers into early childhood education. Paper presented at the meeting of the Missouri Vocational Association/Home Economics Education Inservice Conference, Columbia, MO.

Klinzing, D. G. (1985, March). A study of the behavior of children in a preschool equipped with computers. Paper presented at the annual meeting of the American Educational Research Association, Chicago, IL.

Prudhoe, C. M. (1987, November). Hey, that software gives me an idea! Developing activities to support and supplement individual pieces of software. Paper presented as part of the presession, Programming computers into a developmental early childhood classroom, at the meeting of the National Association for the Education of Young Children, Chicago, IL.

Shade, D. D. (1987, November). How do computers fit into a developmental classroom? Paper presented as part of the presession, Programming computers into a developmental early childhood classroom, at the meeting of the National Association for the Education of Young Children, Chicago, IL.

Shade, D. D. (1987, November). Microcomputers and preschoolers: Bandwagon or boon. Paper presented as part of the seminar, Educational value and appropriateness of microcomputers in early educational settings, at the meeting of the National Association for the Education of Young Children, Chicago, IL. (ERIC Document Reproduction Service No. ED 290 547)

Springsteen, J. A. (1987, November). This program is cute but is it right for my kids? Guidelines for reviewing software to determine developmentally appropriate programs. Paper presented as part of the presession, Programming computers into a developmental early childhood classroom, at the meeting of the National Association for the Education of Young Children, Chicago, IL.

CAPP SUMMER COMPUTER CAMPS

GOALS AND OBJECTIVES

Two Summer Computer Camps for young children aged 4 to 8 were offered. The first was held in Newark, DE from June 27 to July 15, 1988. The second was held in Lewes, DE from July 25 to August 12, 1988. The major goals and objectives of the 1988 Summer Computer Camps for young children were established to provide:

1. a developmentally appropriate computer experience for young children throughout the State of Delaware.

2. a model computers and young children program emphasizing on- and off-computer activities and social interaction.

3. curricula that prepare children for computer use and extend skills children learn on computers.

4. a training program for pre-service and in-service teachers of young children to acquaint them with the experiential approach to early use of computers that is the CAPP philosophy.

5. a networking device to reach parents about the importance of using computers in a developmentally appropriate manner with young children.

6 a community outreach for interested persons not directly affiliated with the Summer Camps, to expand public knowledge of CAPP and its purposes.

7. a site for research to continue to explore young children and computer technology.

Upon completion of this year's camps, goals and objectives were completed in the following areas.

Camp Objects 1, 2 and 3: Children and Technology

The children attending the camps were successful in meeting the objectives set out for them in the camp curriculum. As always, the computers were presented as a tool which children could learn to manipulate and control to help them meet their own goals and the challenges of the future. The summer camps capitalized on the children's natural curiosity and healthy self-concept towards overcoming challenging situations. To these young children, computers were not magical machines to be feared, but exciting materials with which to play and explore endless possibilities. As such, the children learned to:

- operate a number of different microcomputer hardware systems including Apple IIe, Apple IIc, Apple IIGS, Apple Macintosh, Atari, Commodore, and IBM PC Jr.

- select software for use on the appropriate machine including loading and changing disks.

- successfully operate computers with keyboard input.

- control several types of peripheral devices such as joysticks, touch pads, touch screens, robot turtles, and printers.

- use computer software to achieve personal and small group objectives.

- use the computer as a tool for such purposes as creating graphics, beginning word processing, and elementary programming.

Camp Object 4: Teacher Training

In conjunction with the camps, IFS 450/567 "Computers in Early Childhood" was offered at both the Lewes and the Newark sites. IFS 450/567 was developed to meet the needs of both in-service and pre-service teachers (see Appendix A for a copy of course syllabi). The students explored computer issues and skills through discussions, demonstrations, and extensive hands-on training. Students enrolled in these courses learned to:

- set-up and operate a variety of different microcomputers including Apple, Atari, Commodore, and IBM.

- select and evaluate software in terms of developmental appropriateness for young children.

- develop teaching strategies for introducing children to computers in an early childhood classroom setting.

Camp Objective 5: Parent Involvement

Parent Information Exchange: Once children are enrolled in the program, it becomes necessary to have a parent orientation meeting to explain camp philosophy and curriculum goals as well as to answer questions, hear specific concerns and expectations. Both camp sites were able to schedule successful parent meetings. Most importantly, the parent meeting provides an opportunity for CAPP staff to provide

parents with knowledge of developmentally appropriate computer experiences for their children.

Parent Volunteer Program: For the second year, CAPP summer camps presented parents with an opportunity to work with the children in the camp setting, to explore and learn with them, and also add to their own knowledge and sense of mastery over the technology. Another aspect of this program is the opportunity it affords CAPP to present a positive role model of computer literate females. It is hoped this will combat the role reversal our research shows exists in the home.

Parent training took place during the week before camp began and was under direction of the Master Teacher. The main thrust of parent training included becoming familiar with hardware and software so that once camp began, parent volunteers could assist children in problem solving at the computer. A second thrust of the training was a more subtle message about classroom management and CAPP philosophy.

Miscellaneous: The exchange is continued through several other parent oriented aspects of the program. At the Newark site, where observation booths are available, parents are encouraged to come and observe camp in operation. Camp staff make themselves available to parents who visit to answer questions and explain program goals. Both sites schedule a parent day during the last week of camp. Parents are invited to come and spend the day at camp with their child. Finally, parents receive on-going information about the program in the form of weekly newsletters. These newsletters share program goals, plans, and descriptions of activities children experience during the week. Special emphasis is placed on explaining the important role of the off-computer activities.

Camp Objective 6: Community Outreach

Several community outreach efforts are reflected in the operation of the summer camps. An attempt to contact and use resources both within the University and in the community resulted in many persons availing themselves and their services as resources. Types of assistance included:

teen volunteers – several young persons participated as volunteer teaching aids and helped load the van for the trip to Lewes.

parent classroom volunteers – this program was already explained above.

hardware/software consulting – During the Lewes Camp, CAPP was able to serve the community by offering the Rohoboth, DE YMCA access to the Commodore 64 software we had on hand. They had just purchased a Commodore 64 and had no idea what software to buy. They indicated the time spent with us was very helpful.

Camp Objective 7: Research Site

Data collection occurred at both of the camp sites. More detailed explanation was included above.

NEWARK CAMP

The Newark camp was held from June 17 through July 15, with the week of June 20 to 24 used as preparation time for staff and training for teaching aides and parent volunteers. Camp is four days a week with Friday reserved for planning and preparation. Younger children, who had not completed kindergarten, attended in the mornings for 2.5 hours. Older children, who had completed kindergarten, attended in the afternoon for 2.5 hours. It was assumed that children who have competed kindergarten can be in group instruction for extended periods of time. This allows us to increase the complexity of the afternoon curriculum.

Training was accomplished through offering IFS 450/567. Students were recruited through the publicity efforts noted above. IFS 450/567 is offered during the preparation week. Students spend five full days of training with mornings reserved for lecture/discussion and afternoons for becoming familiar with software and hardware. In spite of the extensive mailings cited above, the Newark course only had 6 students. This is more, however, than in the past. Since this is similar to last year, it seems reasonable to suspect that school principals are not reliable sources through which to pass information about camp.

There were 38 children enrolled in both sessions. Out of the total, 2 were awarded Provost's Scholarships and 4 received reduced tuition from the Parent Volunteer Program.

LEWES CAMP

The Lewes camp was held from July 25 through August 12, with the week of July 18 to 22 used as preparation. Lewes camp follows the same organization and schedule as the Newark camp.

In spite of the extensive mailings, the Lewes course only had 2 students. Earlier in the summer it looked vary promising as there had been as many as 6 students preregistered. However, this is two more than last year. Again, it seems reasonable to suspect that school principals are not reliable sources through which to pass information about camp.

There were 31 children enrolled in both sessions. Eight were awarded Provost's Scholarships and 1 received reduced tuition since they were only in camp one or two weeks. One child paid the $30.00 application fee and then withdrew.

PROGRAM EVALUATION

Camp Evaluation Form

An evaluation form was given to parents at the conclusion of the camp. Parents were asked to return the evaluation within two weeks. The overall response rate was 36 percent.

Question 1 asks parents to indicate which summer camp their child attended: Newark or Lewes.

Question 2 asked parents to rate their child's experience in computer camp from 1 to 10. Newark parents' average response was 8.36 with a range of 5-10. The average response to question 2 for Lewes parents was 9 with a range of 6-10.

Question 3 asked parents to rank how beneficial they believe the computer camp was for their child. Newark parents' average response was 8.14 with a range of 5-10. Lewes parents' responded with a 9.125 and a range of 6-10. Obviously parents at both camps feel the camp experience is beneficial to their children. A possible

explanation for why the Lewes parents rate camp higher than Newark parents, is that the Newark camp, by virtue of its coming before the Lewes camp, serves as a 'dry run' for Lewes. By the time camp begins in Lewes many software and hardware 'bugs' have been ironed out.

Question 4 asked parents what they perceive to be the main benefit of attending camp for their child. Responses from both camps, Newark and Lewes, ranged from computer specific to general developmental benefits. Examples of computer specific comments from parents are:

Greater facility and comfort in using different types of computers.
Introduction to computer jargon, hardware and software.
Basic information and experience working on computers.
Using computers to boost interest in learning.
Learn to use computers as a tool.

Examples of general developmental benefits are as follows:

A positive social experience and increased self-esteem.
Following directions and meeting new children.
Development of independent learning skills.
Exposure to fun and challenging activities.
Meeting and socializing with new friends.
Gaining confidence in own abilities.

Computer themes seem to revolve around learning about computers and gaining confidence in their use. Developmental themes centered on increased self-esteem, developing social skills, learning to follow directions, and developing self-directed learning habits.

Question 5. Out of the 30 parents who responded to this question, what organizational changes would you like to see in the computer camps, 13 (43%) of parents responded 'none.' Some of the suggestions parents made were not congruent with CAPP's developmental philosophy. For example, some parents would like to see their child programming all day long or the inclusion of more drill software. However, the following suggestions seem noteworthy.

Increase camp to 5 to 6 weeks.
Increase communication with parents about upcoming events.
Move snack to to mid-morning instead of end of class.
Begin camp promptly on time.
Provide more opportunities for parents to observe daily.
Increase to three-hour session, open doors on time, hold down costs.

Question 6 asked parents to make suggestions for the improvement of CAPP's camp curriculum. Again, a number of parents indicated they could think of nothing to change (14 or 47%). The following are examples of the suggestions offered.

> Teach children more about the computer hardware itself.
> More information to parents about the software being used.
> More advanced work for returning children.
> Purchase new computers to replace the old ones.
> More IBM software since this is what most parents have at home.
> More one on one with teachers (more staff) to provide guidance.
> More group sessions that relate to individualized work.
> Distribute lesson plans for each day and information on software.
> More small group instruction.
> Extend the hours to offset high cost of camp.

Some parents, in spite of efforts to avoid miscommunication through parent meetings and newsletters, simply do not understand the goals and philosophy of CAPP. Suggestions to include basic math and reading instruction as well as math and science software are illustrative of this problem. On the other hand, some parents thought the curriculum was excellent and appropriate for the intended age group.

Question 7 asked parents to make suggestions about scheduling. Specifically we sought feedback on the time and locations of the computer camps. Fifteen parents (50 %) indicated they were totally satisfied with camp scheduling. Others suggestions were made as indicated below.

> Include a camp in Kent County such as Delstate or Deltech.
> Expand to a full-day program for working parents.
> Shorten camp to two weeks and go five days a week.
> Extend the hours to offset the high tuition.
> Add additional locations.
> Consider a more central Sussex location because of increased congestion in the Lewes/Rohoboth area.

Question 8 asked parents if future camps should be planned and why. We are pleased to report that 28 parents (93 %) responded 'yes' and 2 did not respond. The comments below are illustrative of parent rationale for future camps.

> The experience working with different computers and their software cannot be matched at home or school. The 3 or 4 to 1 teacher/child ration is great.

The exposure provided to computer technology is a great introduction.

Most definitely! It is a wonderful experience for preschool children.

Wonderful experience and added exposure to returning children.
You filled the need in Sussex County for computer program for young children.

Good experience for children and great research and training opportunity for UD students.

Provided a good exposure to computers. Our child taught us! It was a great no-pressure educational opportunity.

Children need exposure to computers at an early age since they are the way of the future.

Provided my child with more than what the public schools can offer.

Question 9 ask parents is they would recommend the summer camps to others. Almost unanimously parents agreed they would.

Two special comments from parents seem appropriate here.

"The staff was exceptional and the majority of activities by the students teachers were imaginative and worthwhile. Sometimes there seemed to be too many to choose from. The research project was held with finesse and skill."

"The staff was super! Not once was my child ignored when he had a request and he was always treated with respect."

PROPOSED 1989 CAMP PROGRAM

Course

The Computers in Early Childhood course (IFS 450/567) will be offered again at Newark and Lewes, Delaware. Efforts will be intensified to inform the target audience of course availability. A contingency plan for staffing the camps in the event of course cancellation will be developed and included in the budget. The course will be offered again by Dr. Shade.

The course will be offered June 19 through 23, 1989 on the Newark campus and July 17 through 21, 1989 in Lewes. At both locations the course will meet from 9:00 A.M. until 4:00 P.M. During the practicum (camp), students will be responsible for participating either mornings or afternoons. Both of these courses will be taught by

Dr. Shade in order to offer graduate credit. The general format of the course, a combination of lecture/discussion, demonstration and hands-on exploration, will be continued with appropriate changes made from course evaluations.

Course instruction and practicum supervision will continue to be separated as in the past. During camp, the course instructor will make on-sight visits once a week to evaluation students progress, but will not otherwise be 'on the floor.' This seems to facilitate the notion of the head teacher as 'in charge' and frees the course instructor for involvement in research and data collection.

Camp

Two summer computer camps are proposed for Summer, 1989. The Newark camp will run from June 26 through July 14, 1989. The Lewes camp will run from July 24 through August 11, 1989. As was done this year, camp will be offered to children between the ages of 4.0- and 8.11-years. Furthermore, funding will be sought from the Office of the Provost for ten scholarship positions.

In both locations CAPP will operate a morning and afternoon session. As in the past years, the morning session will be for younger, less computer-experienced children and run from 9:00 A.M. to 11:30 A.M. The afternoon session will be for older, more computer-experienced children and run from 1:00 P.M. until 3:30 P.M.

APPENDICES

Appendix A:
Individual and Family Studies 450/567
Computers in Early Childhood

UNIVERSITY OF DELAWARE
COLLEGE OF HUMAN RESOURCES
INDIVIDUAL AND FAMILY STUDIES

IFS 450.10, 450.11, 450.70, 450.71
IFS 567.10, 567.11, 567.70, 567.71
Summer, 1988

Dr. Daniel Shade
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COMPUTERS IN EARLY CHILDHOOD

COURSE OBJECTIVES:

Students will:

- consider philosophical and theoretical basis for including computers in early childhood education
- learn to set-up and operate a variety of microcomputers
- evaluate and use a variety of developmentally appropriate software
- learn teaching strategies for introducing children to computers and for encouraging independent computer use
- plan ways the computer can be integrated across the curriculum as a creative tool
- plan curricula that prepare children for computer use and extend skills children learn at computers

COURSE REQUIREMENTS:

- class attendance is mandatory (one absence will result in an incomplete)
- practicum requirements (see below) — 60 points
- exam (7/1/88) — 20 points
- evaluations (2 pieces software) — 10 points
- abstracts (2) — 10 points

PRACTICUM REQUIREMENTS:

1. Daily participation in assigned camp session including set-up, pre-sessions, and post-sessions (all absences must be made up in order to complete the course).
2. Participation in planning time (Friday 9:00 - 3:00).
3. Planning and implementation of one lesson plan for each camp day. Lesson plans must me submitted to supervisor and master teacher two days prior to implementation.Therefore

you will need to make two copies of each plan. You may do two activities from the textbook if they are done as your first two. After that, any activity from the book must be substantially altered to be accepted. The master teacher must fill out an evaluation for each of your activities.
Each Friday during planning time there we will have a sign-up chart of different areas of the room for the coming week.

4. For each camp week:
– plan and implement two lesson plan topics from the following list:
    1. large or fine motor
    2. dramatic play
    3. group time activity
    4. art
    5. cooking
    6. language arts
    7. math
    8. blocks

– in addition, during the course of the camp, two activities must be planned and implemented which accomplish each of the following:
    1. enhance a skill children need when working with computers.
    2. enhance a skill children need which is directly related to a specific piece of software.
    3. introduce a new piece of software as a free-choice activity.

5. Daily written log including:
– a summary of daily activity
– your interactions with children
– a description of software use with children
– personal reflections on the day
– contribution to weekly newsletter

6. Participation in an Evaluation Conference with supervisor (self-evaluation form must be filled out prior to conference).